

REMARKS

Claims 1, 3-9, 13, 15 and 22 are presented for consideration, with Claim 1 being independent.

Claim 1 has been amended to better set forth Applicants' invention, and Claim 22 has been added to provide an additional scope of protection. Claims 2 and 17-21 have been cancelled.

Claims 1-4, 6-9, 13, 15, 17, 18, 20 and 21 stand rejected under 35 U.S.C. §103 as allegedly being obvious over Ikeda '521 in view of Akins '787. In addition, Claims 5 and 19 are rejected as allegedly being obvious over those citations and further in view of Iwai '392. These rejections are respectfully traversed.

Claim 1 of Applicants' invention relates to a display apparatus comprised of a substrate on which a plurality of closed spaces are two-dimensionally disposed along a surface of the substrate, a plurality of light-absorbing particles contained in each of the closed spaces, and a reflection surface for reflecting light which enters each of the closed spaces. The particles are moved in each closed space between a first position at which they are diffused to cover the reflection surface and a second position at which they are collected to exposed the reflection surface, to change an intensity of reflected light so as to provide a bright display state and a dark display state. The exposed reflection surface diffuse-reflects incident light with a directivity when the particles are located at the second position. As also claimed, a light intensity of the diffuse reflection with the directivity of the exposed reflection surface has such an angular distribution that 1) an amount of reflected light emitted from the reflection surface toward the second position at which the particles are collected is smaller than that thereof in the case where the reflection surface is an isotropic diffuse reflection surface, and 2) an amount of reflected light

emitted from the reflection surface toward positions other than the second position at which the particles are collected is larger than that of reflected light emitted from the reflection surface toward the second position at which the particles are collected.

In accordance with Applicants' invention, reflected light emitting from the reflection surface toward the second position where the particles are collected is made to be smaller than the amount of reflected light emitted toward positions other than the second position, and a high performance display apparatus can be provided.

The primary citation to Ikeda relates to an electrophoretic display device that includes a display side and rear side substrates 1, 2, a cell wall 3, dispersing fluid 4, and charged particles 5 (see Figure 1). A first electrode 6 is provided on a surface of the rear side substrate, and a second electrode 7 is formed in the cell wall. The Office Action relies on Ikeda for teaching a substrate, light absorbing particles, and a reflection surface. The Office Action acknowledges that Ikeda does not provide a light intensity with an angular distribution as set forth in Applicants' Claim 1.

The secondary citation to Akins was cited to compensate for the deficiencies in Ikeda. Akins provides a reflection-type optical display device having a prismatic film 12, an optical cell 14, and a reflector 16, as shown in Figure 1. The Office Action asserts that it would have been obvious to combine the display apparatus of Ikeda with the teachings of Akins, with Akins providing a light intensity with an angular distribution as provided in Claim 1.

Initially, it is respectfully submitted that it would not have been obvious to try to modify the electrophoretic display device in Ikeda in view of the teachings in Akins. Although both Ikeda and Akins are directed generally to optical display devices, Ikeda relates to an electrophoretic display device that uses light absorbing particles so as to improve viewing angle

independence and provide a thin display. Akins, on the other hand, is directed to a reflective liquid display, which can be susceptible to glare (see column 1, lines 12-67), and provides use of a prismatic film 12 to reduce such glare. It is submitted, therefore, that only through impermissible hindsight would one skilled in the art attempt to combine the teachings of Ikeda and Akins as proposed in the Office Action.

Secondly, it is submitted that the proposed combination of Ikeda and Akins, even if proper, still fails to teach or suggest Applicants' claimed invention. In Claim 1, the light intensity of the diffuse-reflection has an angular distribution such that 1) an amount of reflected light emitting from the reflection surface toward the second position at which the particles are corrected is smaller than that thereof in the case where the reflection surface is an isotropic diffuse reflection surface, and 2) an amount of reflected light emitted from the reflection surface toward positions other than the second position at which the particles are collected is larger than that of the reflected light emitted from the reflection surface toward the second position. In this regard, the Office Action asserts that such an angular distribution is achieved by Akins based on the disclosure in column 7, lines 26-31. This portion of Akins, however, merely discloses that the reflector 16 can be a diffuse reflector. Akins is not read to teach or suggest a light intensity with an angular distribution as set forth in Claim 1. Accordingly, the proposed combination of art, even if proper, still fails to teach or suggest Applicants' claimed invention.

Therefore, reconsideration and withdrawal of the rejection of Claims 1-4, 6-9, 13, 15, 17, 18, 20 and 21 under 35 U.S.C. §103 is respectfully requested.

The tertiary citation to Iwai relates to a liquid crystal display and is relied on for its teaching of dividing a reflection surface into a plurality of areas. Iwai fails, however, to

compensate for the deficiencies in Ikeda and Akins as discussed above. Reconsideration and withdrawal of the rejection of Claims 5 and 19 is thus also requested.

Thus, it is submitted that Applicants' invention as set forth in independent Claim 1 is patentable over the cited art. In addition, dependent Claims 3-9, 13, 15 and 22 set forth additional features of Applicants' invention. Independent consideration of the dependent claims is respectfully requested.

In view of the foregoing, reconsideration and allowance of this application is deemed to be in order and such action is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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